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09/02/2009

Docket No. 8734.241 US
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Gee-Sung Chae et al.

Customer No. 30827

Application No. 10/674,421

Confirmation No. 5657

Filed: October 1, 2003

Art Unit: 2629

For: IN-PLANE SWITCHING MODE LIQUID
CRYSTAL DISPLAY DEVICE HAVING
IMPROVED APERTURE RATIO

Examiner: William Boddie

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT IN RESPONSE TO FINAL OFFICE ACTION

Sir:

In response to the Office Action dated June 1, 2009 (Paper No. 20090527), please amend the patent application identified above as follows:

INTRODUCTORY COMMENTS

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 4 of this paper.

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An in-plane switching mode liquid crystal display device, comprising:
- a plurality of gate lines and data lines defining a plurality of pixels;
 - a thin film transistor in each of the pixels, the thin film transistor including a gate electrode on a substrate, an insulating layer over the gate electrode, a semiconductor layer on the insulating layer, a source electrode and a drain electrode on the semiconductor layer;
 - a common line on the substrate;
 - at least one pixel electrode having a predetermined width in each of the pixels; and
 - at least one a common electrode in each of the pixels having a predetermined width completely overlapping a data line in width, the common electrode being substantially parallel to the pixel electrode and the common electrode being alternately disposed with the pixel electrode, the common electrode including two first portions disposed along the data line to cover complete the data line and only one second portion disposed between the first portions, thereby each of the pixels including two areas defined by the first portion and the second portion;
 - a passivation layer over the source electrode, drain electrode and semiconductor layer, the passivation layer being made of an organic material including at least one material of BCB (Benzo-Cyclo-Butene) and photoacryl; and
 - wherein the pixel electrode and the common electrode are disposed on the same layer, the common electrode and the common line are disposed on layers different from each other so that the common electrode is connected to the common line through a contact hole, the pixel electrode and the common electrode being disposed on the passivation layer,
 - wherein the common electrode and the common line are not overlapped with the pixel electrode and the common line is separated a predetermined distance from the end portion of the pixel electrode.

2-3. (Cancelled)

4. (Previously Presented) The device of claim 1, wherein the data lines are formed on the insulating layer.

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5-16. (Cancelled)

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The Office Action dated June 1, 2009, has been received and its contents carefully reviewed.

Claims 1, 4, 10, and 11 are rejected by the Examiner. With this response, claim 1 has been amended and claims 10-11 are cancelled without prejudice or disclaimer. Thus, claims 1 and 4 remain pending in this application.

In the Office Action, claims 1, 4 and 10-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,069,678 to Sakamoto et al. (hereinafter "Sakamoto") in view of U.S. Patent No. 6,356,328 to Shin et al. (hereinafter "Shin") and further in view of U.S. Patent No. 6,459,465 to Lee (hereinafter "Lee").

The rejection of claims 1, 4 and 10-11 under 35 U.S.C. § 103(a) as being unpatentable over Sakamoto in view of Shin and further in view of Lee is respectfully traversed and reconsideration is requested.

Independent claim 1 recites an in-plane switching mode liquid crystal display device having a combination of features including "a common electrode in each of the pixels, the common electrode being substantially parallel to the pixel electrode, the common electrode including two first portions disposed along the data line to cover complete the data line and only one second portion disposed between the first portions, thereby each of the pixels including two area defined by the first portion and the second portion" and "the pixel electrode and the common electrode are disposed on the same layer, the common electrode and the common line are disposed on layers different from each other so that the common electrode is connected to the common line through a contact hole, the pixel electrode and the common electrode being disposed on the passivation layer." None of the cited references, singly or in combination, teaches or suggests at least these features of the claimed invention.

In the claimed invention, the pixel electrode and the common electrode are formed on the same layer, that is, on the passivation layer. Although the pixel electrode and the common electrode are formed on the same layer in Shin, this layer is not the passivation layer. In

Sakamoto the common electrode is formed on the passivation layer, but the pixel electrode is not formed on the passivation. Further, since the common electrode is formed along the 4-sides of the pixel in Sakamoto, the pixel electrode is short-circuited with the common electrode when the structure of Shin is combined with that of Sakamoto.

Thus, Applicant respectfully submits it is improper to combine the structure of Sakamoto with the structure of Shin.

Further, in the claimed invention, the common electrode is disposed along the data line and between the data lines to form two blocks at each of the pixels. However, this structural feature is not shown in the cited references.

Accordingly, Applicant respectfully submits that claim 1 and claim 4, which depends therefrom, are allowable over the cited references.

Since the rejected claims 10 and 11 are cancelled, Applicant respectfully requests withdrawal of the rejection of claims 10 and 11.

Applicants believe the foregoing amendments and remarks place the application in condition for allowance and early, favorable action is respectfully solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911.

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Please credit any overpayment to deposit Account No. 50-0911.

Dated: September 1, 2009

Respectfully submitted,

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